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STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.
1100 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005

EXAMINER	
LERNER, MARTIN	
ART UNIT	PAPER NUMBER
2626	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/057,523	WHITE ET AL.	
	Examiner	Art Unit	
	MARTIN LERNER	2626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 May 2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *59, 61 to 66, 68 to 73, 75 to 79, 81, and 83 to 88* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *59, 61 to 66, 68 to 73, 75 to 79, 81, and 83 to 88* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 66, 68 to 72, and 85 are objected to because of the following informalities:

Independent claim 66 lacks antecedent basis for "the device" and "the network". Applicants have amended independent claim 66 to delete these limitations, so that independent claim 66 is different from independent claims 59, 73, 81, and 83.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 59, 61 to 66, 68 to 73, 75 to 79, 81, and 83 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Jacobs et al.* in view of *Odinak.*

Concerning independent claims 59, 81, and 83, *Jacobs et al.* discloses a distributed voice recognition system and method, comprising:

"a transceiver configured to receive input from the device via a communications network, wherein the input is the result of preliminary signal processing comprising keyword detection by the device prior to receipt of the input at the transceiver" – central

communications center or base station 42 has receiver 46 and transmitter 50 (“a transceiver”), which receives features (“the input”) from portable phone 40 (“the device”) through a wireless network (“via a communications network”); a speech signal received at microphone 20 of portable phone 40 is provided to feature extraction element 22, which extracts relevant characteristics of the input speech (“preliminary signal processing”) (column 5, lines 21 to 56: Figure 2); in one embodiment, handset 100 (“the device”) recognizes a small number of simple, special voiced commands by local VR (voice recognition) (“keyword detection by the device prior to receipt of the input at the transceiver”); however, if local VR of handset 100 fails to decode the input string, the features are transmitted to base station 110 for recognition by remote VR (column 8, lines 46 to 56; column 9, lines 6 to 20: Figure 5); implicitly, the words to be decoded for these small number of simple, special voiced commands are “keywords”;

“a memory configured to store an acoustic model of the input; and a processing module coupled to the transceiver and configured to: perform speech recognition on the received input based on a previously stored acoustic model in order to recognize a command” – remote VR recognizes regular voiced commands with a larger vocabulary table at remote word decoder of base station 110 (column 8, lines 28 to 56: Figure 5); implicitly, words recognized by remote word decoder for a regular voiced command involves “keyword detection”; acoustic pattern matching in a word decoder requires a mathematical model to describe the speaker's phonological and acoustic-phonetic variations for acoustic pattern matching (column 2, lines 31 to 40); acoustic pattern matching in a word decoder can be based on hidden Markov models (HMM’s) (column

4, lines 13 to 21); speech signals are provided to acoustic processor 52, which requires an acoustic feature sequence as input for both recognition and training tasks (column 6, lines 62 to 67: Figure 3); thus, acoustic pattern matching by remote word decoder 114 ("a processing module") involves a stored "acoustic model" to perform speech recognition by matching an acoustic feature sequence to a stored mathematical model of a speaker's phonological and acoustic-phonetic variations;

"wherein the transceiver is further configured to transmit data to the device responsive to the command via the communication network" – at central communications center 42, an action signal is provided to transmitter 50, so that estimated words or a command signal are transmitted to portable phone 40 ("to transmit data to the device responsive to the command"); at portable phone 40, the estimated words or command signals are received, and then provided to control element 38; in response to the received command signal or estimated words, control element 38 provides the intended response; an intended response can be providing information on a display screen (column 5, lines 44 to 65: Figure 2).

Concerning independent claims 59, 81, and 83, the only elements omitted by *Jacobs et al.* are "using communications channels comprising: a high bandwidth communication channel configured to transmit data supporting audio or video output at the device, and a low bandwidth communication channel configured to transmit data supporting control signals for operation of a primary functionality component of the device." *Jacobs et al.* discloses a command signal that is provided to a control element for controlling a response in a portable phone ("a primary functionality component") for

performing operations that include dialing a phone number and displaying information on a display screen, but omits disclosure of a low bandwidth communication channel for transmitting the control signals and a high bandwidth communication channel for transmitting audio or video output. However, *Odinak* teaches a home control system for controlling components that include a VCR and a TV that receive control commands using a low-bandwidth communications channel, while also being configured to receive an audio/video signal over a high-bandwidth communications channel. (Column 2, Lines 32 to 65) An audio system 20 is connected to receive an audio signal, and a receiver is tunable between any of twenty available high-bandwidth audio channels. Audio system 20 has a control receiver 54 that receives and demodulates control data using the low-bandwidth channel. Video monitor 18 has components that are similar to those of audio system 20, for receiving a video signal. (Column 5, Lines 5 to 23: Figure 5) An objective is to provide high bandwidth communications required for audio, video, and computer networking applications so that a controller can issue commands to a VCR and a TV over a low-bandwidth channel to instruct the components on what high-bandwidth channel to use. (Column 2, Lines 26 to 31; Column 2, Line 66 to Column 3, Line 20) It would have been obvious to one having ordinary skill in the art to utilize a distributed voice recognition system of *Jacobs et al.* for a home control system having low-bandwidth communication channels for control commands and high-bandwidth communication channels for audio and video as taught by *Odinak* for a purpose of providing commands on a low-bandwidth channel to instruct components on what high-bandwidth channel to use.

Concerning independent claims 66 and 73, *Jacobs et al.* discloses a distributed voice recognition system and method, comprising:

"receiving an audio input from a device via a communication network, the audio input based on speech input, wherein the audio input is the result of preliminary signal processing comprising keyword detection by the device prior to receipt of the audio input" – central communications center or base station 42 receives speech features ("audio input") transmitted over a wireless communication network ("a network") from portable phone 40 ("the device"); a speech signal received at microphone 20 of portable phone 40 is provided to feature extraction element 22, which extracts relevant characteristics of the input speech ("preliminary signal processing") (column 5, lines 21 to 56: Figure 2); in one embodiment, handset 100 recognizes a small number of simple, special voiced commands by local VR (voice recognition) ("keyword detection by the device prior to receipt of the input at the transceiver"); however, if local VR of handset 100 fails to decode the input string, the features are transmitted to base station 110 for recognition by remote VR (column 8, lines 46 to 56; column 9, lines 6 to 20: Figure 5); implicitly, the words to be decoded for these small number of simple, special voiced commands are "keywords";

"storing an acoustic model of the audio input; performing speech recognition on the received audio input based on a previously stored acoustic model in order to recognize a command" – remote VR recognizes regular voiced commands with a larger vocabulary table at remote word decoder of base station 110 (column 8, lines 28 to 56:

Figure 5); implicitly, words recognized by remote word decoder for a regular voiced command involves "keyword detection"; acoustic pattern matching in a word decoder requires a mathematical model to describe the speaker's phonological and acoustic-phonetic variations for acoustic pattern matching (column 2, lines 31 to 40); acoustic pattern matching in a word decoder can be based on hidden Markov models (HMM's) (column 4, lines 13 to 21); speech signals are provided to acoustic processor 52, which requires an acoustic feature sequence as input for both recognition and training tasks (column 6, lines 62 to 67: Figure 3); thus, acoustic pattern matching by remote word decoder 114 involves a stored "acoustic model" to perform speech recognition by matching an acoustic feature sequence to a stored mathematical model of a speaker's phonological and acoustic-phonetic variations;

"transmitting data to the device over the network, responsive to the command, via the communication network" – at central communications center 42, an action signal is provided to transmitter 50, so that estimated words or a command signal are transmitted to portable phone 40 ("transmitting data to the device . . . responsive to the command"); at portable phone 40, the estimated words or command signals are received, and then provided to control element 38; in response to the received command signal or estimated words, control element 38 provides the intended response; an intended response can be providing information on a display screen (column 5, lines 44 to 65: Figure 2).

Concerning independent claims 66 and 73, the only elements omitted by *Jacobs et al.* are "using communications channels comprising: a high bandwidth communication

channel configured to transmit data supporting audio or video output at the device, and a low bandwidth communication channel configured to transmit data supporting control signals for operation of a primary functionality component of the device." *Jacobs et al.* discloses a command signal that is provided to a control element for controlling a response in a portable phone ("a primary functionality component") for performing operations that include dialing a phone number and displaying information on a display screen, but omits disclosure of a low bandwidth communication channel for transmitting the control signals and a high bandwidth communication channel for transmitting audio or video output. However, *Odinak* teaches a home control system for controlling components that include a VCR and a TV that receive control commands using a low bandwidth communications channel, while also being configured to receive an audio/video signal over a high-bandwidth communications channel. (Column 2, Lines 32 to 65) An audio system 20 is connected to receive an audio signal, and a receiver is tunable between any of twenty available high-bandwidth audio channels. Audio system 20 has a control receiver 54 that receives and demodulates control data using the low-bandwidth channel. Video monitor 18 has components that are similar to those of audio system 20, for receiving a video signal. (Column 5, Lines 5 to 23: Figure 5) An objective is to provide high bandwidth communications required for audio, video, and computer networking applications so that a controller can issue commands to a VCR and a TV over a low-bandwidth channel to instruct the components on what high-bandwidth channel to use. (Column 2, Lines 26 to 31; Column 2, Line 66 to Column 3, Line 20) It would have been obvious to one having ordinary skill in the art to utilize a

distributed voice recognition system of *Jacobs et al.* for a home control system having low-bandwidth communication channels for control commands and high-bandwidth communication channels for audio and video as taught by *Odinak* for a purpose of providing commands on a low-bandwidth channel to instruct components on what high-bandwidth channel to use.

Concerning claims 61 to 62, 68 to 69, and 75 to 76, *Odinak* teaches a VCR and TV that transmit and receive an audio/video signal over a high-bandwidth communication channel. (Column 2, Lines 56 to 65: Figure 1)

Concerning claims 63, 70, and 77, *Jacobs et al.* discloses that portable phone 40 may receive a command signal or estimated words, and control element 38 provides an intended response; the intended response may be to provide information to display screen on the portable phone (column 5, lines 62 to 65: Figure 2); thus, the response will be “a text message” of information on a display of portable phone 40.

Concerning claims 64, 71, and 78, *Jacobs et al.* discloses that features are provided to local word decoder 106 which searches its small vocabulary to recognize the input speech; if local word decoder 106 fails to decode the input string and determines that remote VR should decode it, the features are transmitted to remote word decoder 110 (column 9, lines 6 to 15: Figure 5); thus, handset 100 will transmit the speech features (“the input”) for remote VR when the input string at handset (”the device”) “is not capable of being processed by the device”.

Concerning claims 65, 72, and 79, *Jacobs et al.* discloses that central communications center 42 has a transmitter 50 that may transmit estimated words to portable phone 40. At portable phone 40, the estimated words are provided to control element 38, and the estimated words may be provided as information to display on a display screen of a portable phone. (Column 5, Lines 44 to 65: Figure 2) Here, the information displayed from the estimated words are "remote data" that is retrieved "in response to the input received from the device." Moreover, *Jacobs et al.* discloses that a portable phone may inquire for messages on a remote answering machine coupled via a communications network to a central communication center, in which case the signal transmitted from central communication center to portable telephone may be messages ("to retrieve remote data") from the answering machine. (Column 66 to Column 6, Lines 12)

4. Claims 84 to 88 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Jacobs et al.* in view of *Odinak* as applied to claims 59, 66, 73, 81, and 83 above, and further in view of *Miyazawa et al.*

Concerning claims 84 to 88, *Jacobs et al.* omits a processing module that is configured to "update or modify the keyword detection based on words within the additional input, and update the previously stored acoustic model based on the additional input". *Jacobs et al.* reasonably discloses "an acoustic model" for acoustic pattern matching by a word decoder, and keywords for special voiced commands, and even suggests training of the acoustic model. (See Column 6, Line 64 to 67) However,

Jacobs et al. does not disclose updating or modifying keyword detection or updating a previously stored acoustic model with additional input. Still, it is known to update both acoustic models and keyword grammars during speech recognition so as to improve recognition performance by adaptation.

Concerning claims 84 to 88, specifically, *Miyazawa et al.* teaches a speech recognition method for a speech interactive device, where an initial word enrollment is followed by additional word enrollment that creates standard patterns that are speaker-adapted and stored for speaker specific word enrollment. (Abstract; Column 3, Lines 39 to 48) Pre-registered words can be speaker-adapted to permit more accurate and quicker recognition, and to allow specific speakers to enroll new words suited to the user's individual needs and tastes which are not included in the non-speaker specific word registry storage. (Column 4, Lines 43 to 60) *Miyazawa et al.* refers to these words as "keywords" for keyword-spotting processing technology, and keywords include "time", "tomorrow", and "weather" for responding to commands for information about the weather. (Column 7, Lines 50 to 57; Column 8, Lines 7 to 11; Column 9, Lines 21 to 51) Keywords are stored in the form of patterns in standard pattern memory unit 31 for the predetermined word registry. (Column 8, Lines 7 to 14) Word enrollment 81 creates standard patterns for the input voice as standard characteristic voice data, and the standard pattern is stored in standard pattern memory unit 82. (Column 10, Lines 26 to 30) Here, a standard pattern is equivalent to "an acoustic model". Thus, *Miyazawa et al.* teaches both updating or modifying keyword detection by additional word enrollment, and updating a stored acoustic model when a standard pattern is stored for speaker-

specific word registration. Objectives include accommodating a wider range of conversation responses and detected phrases on an as needed basis. (Column 3, Lines 2 to 5) It would have been obvious to one having ordinary skill in the art to update and modify keyword detection and update acoustic models as taught by *Miyazawa et al.* in a distributed voice recognition system and method of *Jacobs et al.* for a purpose of accommodating a wider range of conversation responses and detected phrases as needed.

Response to Arguments

5. Applicants' arguments filed 17 May 2010 have been fully considered but they are not persuasive.

Applicants provide some brief arguments commenting upon *Odinak* as mentioned in the Advisory Action dated 22 April 2010. Applicants say that *Odinak* does not provide the necessary teaching or suggestion to transmit data to a device responsive to a command. Applicants characterize *Odinak as* relating to using an X10 communication protocol for low bandwidth signaling over home electrical wiring.

However, it is maintained that Applicants are attacking the references individually without considering what the prior art teaches in combination. One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Generally, 'notice' is taken that it was known in the prior art at the time of invention to provide

control of a home entertainment system by voice commands. *Odinak* teaches communication of control commands among components of a home entertainment system (*e.g.*, a VCR and a TV) in a home automation system. Given that it was known at the time of invention to control a home entertainment system by voice commands, it would have been obvious to one having ordinary skill in the art to control a home entertainment system of *Odinak* by a distributed voice recognition system of *Jacobs et al.* That is, *Jacobs et al.* can be taken for a generic distributed voice recognition system that produces an action signal or command signal from voice commands, where the action signal or command signal is input to provide the low-bandwidth control commands of *Odinak*. Alternatively, it is maintained that it was known at the time of invention to download at least audio and/or videos on a portable phone. *Jacobs et al.* at least discloses that a portable phone may inquire for messages on a remote answering machine coupled via a communications network to a central communication center, in which case the signal transmitted from central communication center to portable telephone may be messages from the answering machine. (Column 66 to Column 6, Lines 12) Here, messages received from a remote answering machine is audio that is retrieved by voice commands. It would have been obvious to one having ordinary skill in the art to utilize the method involving a low-bandwidth communication channel for control signals and a high-bandwidth communication channel for audio as taught by *Odinak* to retrieve messages from a remote answering machine as disclosed by *Jacobs et al.*

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to Applicants' disclosure.

Lawrence et al., Agarwal, Norsworthy et al., and Greaney et al. disclose related prior art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin Lerner whose telephone number is (571) 272-7608. The examiner can normally be reached on 8:30 AM to 6:00 PM Monday to Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R. Hudspeth can be reached on (571) 272-7843. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Martin Lerner/
Primary Examiner
Art Unit 2626
November 8, 2010